Reputation, Accounting Information and Debt Contracts in Chinese Family Firms*

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Abstract

This paper provides evidence to show that in the presence of imperfect formal institutions there is both a substitutional and a complementary relationship between accounting information and reputation, an informal institution. Empirical results using a sample of family firms listed in the Chinese A-share stock market from 2004 to 2007 show that in China, where the legal environment is far from perfect, the complementary relationship between reputation and accounting information is more pronounced than is the substitutional relationship. Thus, the aggregate effect is that a better reputation improves the usefulness of accounting information in debt contracts. Besides the aggregate effect, this paper also provides evidence of the substitutional and complementary relationships between reputation and accounting separately.

JEL classification: G14; G32; M41

Keywords: Reputation; Family firm; Accounting information; Debt financing; Contracting cost

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1. Introduction

Coase (1937) shows that the costs of entering into and executing contracts and managing organizations, and these costs that are neglected by traditional microeconomic theory, can be employed to interpret the reasons for a firm's existence. He then extends these costs to form the concept of "transaction costs." In a world of positive transaction costs, the contracting parties will try to minimize (given constraints) contracting costs. Positive accounting theory (PAT), as formulated by Watts and Zimmerman and other researchers, views accounting as part of a set of efficient contracts that are agreed by the firm and its stakeholders (see Watts and Zimmerman (1986) for a summary of related PAT literature from the 1970s). The three major hypotheses proposed by PAT, namely, the bonus plan, debt contract and political cost hypotheses, are all based on the assumption that accounting information can reduce contracting costs. A natural question that arises is: What is the relationship between accounting information and the other institutional arrangements that can also reduce these costs?

The prior literature, much of which constitutes cross-country studies, has examined the relationship between accounting information and the other formal institutional arrangements that can also reduce contracting costs, such as legal origin, legal enforcement and public policies. Transaction cost economics, as established by Williamson (1979), however, argues that in reality the most common way to solve contract disputes is not through a formal institution, but rather through the informal institutions that are formed by repeated games among the transaction parties and are known as "private order" institutions. Informal institutions can also remedy some of the defects of formal institutions (Lin, 1994), and it is thus meaningful to examine them. Because of data collection difficulties (Sun *et al.*, 2005) and the problems of omitted variables and measurement bias (Gul, 2006), it is difficult for cross-country studies to examine the effects of informal institutions and the relationship between these institutions and accounting information. At the same time, informal institutions guarantee the self-enforcement of contracts and thus do not rely on any third party outside the contracting relationship such as the courts. In the face of imperfect formal institutions, transactions are more reliant on informal institutions. Hence, I expect it to be easier to observe the way in which informal institutions aid the enforcement of contracts. China, an emerging market, provides a unique setting for such an investigation.

Sun *et al.* (2006) show that the usefulness of accounting information in debt contracts is less pronounced in state-owned enterprises (SOEs) than in non-SOEs. After ruling out alternative explanations, they conclude that the government's reputation serves as guarantee that SOEs will repay their bank loans, thereby weakening the usefulness of accounting information. Reputation is a self-enforcing informal institution (Klein *et al.*, 1978; Williamson, 1979). It serves to render the present value of future gains when the contract is honored greater than that of current gains when it is breached. Reputation thus gives the contracting parties the incentive to honor the contract.

In line with Sun *et al.* (2006), "debt contract" in this paper refers to a firm's ability to borrow from banks, and is measured in the empirical analysis by newly acquired bank loans in a given year.[1] This study extends Sun *et al.* (2006) in two aspects. First, by employing the transaction cost economics framework, it shows that reputation and accounting information have both a substitutional and complementary relationship in debt contracts. On the one hand, both reputation and accounting information can monitor borrowers and reduce their opportunistic behavior, which means that reputation can substitute for accounting information in preventing such behavior. On the other hand, accounting information provides useful information about the borrowers' ability to repay the debt. Reputation enhances the credibility of such information, thereby improving the usefulness of accounting information in debt contracts and suggesting a complementary relationship between reputation and accounting information. Second, Sun *et al.* (2006) present only indirect evidence of the effect of reputation, whereas this study attempts to measure the reputation of family firms and provides direct evidence of its effect.

The empirical results of the study reported herein, which adopted a sample of all family firms listed in the Chinese A-share stock market from 2004 to 2007, show that in China, where formal institutions are far from perfect, the complementary relationship between reputation and accounting information is more pronounced than is the substitutional relationship. Thus, the aggregate effect is that a better reputation improves the usefulness of accounting information in debt contracts. This paper also provides evidence of both the substitutional and complementary relationships between reputation and accounting, and examines alternative implications of the reputation variables. When control variables for privatization type, controlling shareholder, differences in the information environment and accounting information quality are included, the prior conclusion that a stronger reputation improves the usefulness of accounting information in debt contracts remains unchanged. Additional tests show that (1) analysts' private information weakens the complementary relationship between reputation and accounting information, and (2) banks require a lower degree of conditional conservatism from firms with a better reputation, which suggests that reputation substitutes for the governance role of accounting information. Moreover, there is weak evidence to suggest that the effects of reputation are lessened as the legal environment improves.

In contrast to the prior literature, which focuses on the relationship between accounting information and formal institutions, this study investigates the relationship between accounting information and reputation, an informal institution, using the transaction cost economics framework. It also offers a preliminary attempt to measure the reputation of family firms. China, one of the world's largest transition economies, is characterized by weak formal institutions. As a result, a large number of the country's

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[1] The author is grateful to the anonymous reviewer who reminded him to clarify the meaning of "debt contract" in this paper.

transactions rely on informal institutions. Such a unique setting provides numerous opportunities for research whose results will have important implications for the economic activities of other transition economies. Reputation, which is examined herein, is only one type of informal institution. Future studies may incorporate other informal institutions, such as business networks and culture, and may also investigate the contracts between firms and other stakeholder, including suppliers, customers and employees. As the restrictions on the listing of private companies in China are gradually being eliminated, future research may employ larger samples, compare family firms and non-family firms directly, and use panel data to avoid such econometrics problems as serial correlation, thereby allowing more accurate and credible conclusions to be reached.

2. Literature Review and Hypotheses

Ali and Hwang (2000) investigate the relationship between the value relevance of financial accounting data and five country-specific factors. They demonstrate that the value relevance of financial reports is lower in countries in which the financial system is bank-oriented rather than market-oriented; private sector bodies are not involved in the standard-setting process; accounting practices follow the continental model rather than the Anglo-American model; the degree of tax-financial reporting conformity is higher; and spending on auditing services is relatively limited. Ball *et al.* (2000) and Bushman and Piotroski (2006) examine the differences in the timeliness and conditional conservatism of accounting earnings that are due to legal origins and the political economy at the country level. Leuz *et al.* (2003) show that firms in countries with developed equity markets, dispersed ownership structures, strong investor rights and good legal enforcement engage in less earnings management, because such countries provide better shareholder protection and mitigate insiders' incentives to manage accounting earnings for private control benefits. Burgstahler *et al.* (2006) also demonstrate that stronger legal enforcement is associated with less earnings management in European firms. Chaney *et al.* (2008) document that the quality of earnings reported by firms with politically connected top executives or large shareholders is poorer. In connected firms, however, lower earnings quality is not associated with a higher cost of debt.

The aforementioned literature mainly focuses on how formal institutions shape accounting. The common conclusion is that imperfect formal institutions impair the quality and usefulness of accounting information. Williamson (1983) criticizes such "legal centralism" by arguing that, in reality, the most common way to solve contract disputes is not through formal institutions, but rather through the informal institutions that are formed by repeated games among the transaction parties and are known as "private order" institutions. Informal institutions can also remedy some of the defects of formal institutions (Lin, 1994), and it is thus meaningful to examine them. Because of difficulties in data collection (Sun *et al.*, 2005) and the problems of omitted variables and measurement bias (Gul, 2006), it is difficult for cross-country studies to examine

the effects of informal institutions and the relationship between such institutions and accounting information.

Anderson *et al.* (2003) investigate the difference in the cost of debt (measured by the yield to maturity of corporate bonds) between family and non-family firms in the US stock market and document that the cost of debt is lower for the former. They argue that the family's concern for the firm's (that is, its own) reputation provides one explanation for this finding. As reputation is one of the informal institutions that is characterized by "self-enforcement" (Klein *et al.*, 1978; Williamson, 1979), Anderson *et al.* (2003), in effect, provide evidence on the effects of informal institutions. However, they fail to investigate how reputation is built, and consider the effects of neither reputation nor accounting information in detail. Given Wang's (2006) evidence that the quality of accounting information is better in family than non-family firms, the results reported by Anderson *et al.* (2003) may simply be the consequence of differences in such quality between these two types of firms.

Transactions in transition economies tend to be heavily reliant on informal institutions due to their imperfect formal institutions, thus rendering an investigation of the relationship between accounting and informal institutions easier in such economies. Sun *et al.* (2006) examine this relationship in debt contracts in the Chinese stock market, and show that the difference in the usefulness of accounting information in these contracts between SOEs and non-SOEs is mainly due to the implicit guarantee of debt payment conferred by the government's reputation for the former firms. They conclude that informal institutions substitute for the effects of accounting information in debt contracts. Employing the transaction cost economics framework, this study shows that reputation and accounting information have both a substitutional and complementary relationship in debt contracts. It also offers an attempt at measuring family firm reputation and provides direct evidence of the effects of that reputation.

2.1 Reputation, Accounting Information and Debt Contracts

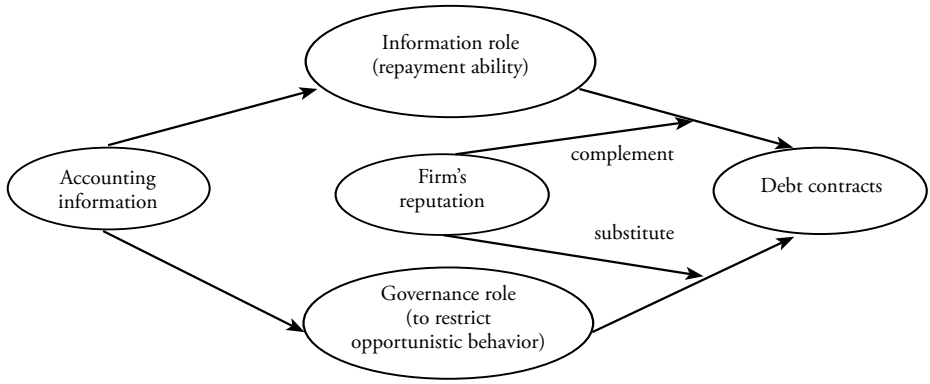
Accounting information can help to reduce the cost of debt contracts in two ways. First, accounting accruals mitigate the noise induced by matching and timing problems in cash flows. Accruals thus better predict future cash flows and better reflect the firm's financial condition and performance than do the current period's cash flows (Dechow, 1994). The information produced by an accounting system is highly correlated with the firm's repayment ability, thus reducing the bank's cost in determining which firm to lend to and the size of the loan. Accounting thus plays an important "information role." Second, because of the bounded rationality of human beings, contracts are by nature incomplete, that is, they are unable to deal with all possible contingencies that may arise in future. Rational economic agents are likely to exploit the incompleteness of contracts to realize gains at others' expense; in other words, they are likely to engage in "opportunistic behavior." For example, having acquired a bank loan, a firm may make a risky investment. The abnormal gains from that investment are realized by the

shareholders, whereas the losses are largely borne by the bank because of shareholders' limited liability. Numerous studies following the research of Jensen and Meckling (1976) and Watts (1977) have documented the fact that opportunistic behavior can be constrained by accounting information. Jensen and Meckling (1976) view accounting as playing a monitoring or guarantee role that reduces agency costs, whereas Watts (1977) argues that financial statements are the product of the demand for reduced such costs. The agency problem between a bank and a firm refers to the problem that arises if the latter engages in opportunistic behavior after the former has offered it a loan. The PAT literature also documents the widespread use of accounting information in debt contracts to constrain firms' operating activities, whereas firms choose accounting policies to avoid such constraints (Watts and Zimmerman, 1990), thus providing indirect evidence to suggest that accounting information can mitigate opportunistic behavior. In this paper, I call this the "governance role" of accounting.

This governance role is based on the assumption of an explicit contract that is valid only when all future contingencies can be expected rationally, and there is a strong juridical system to ensure contract enforcement (Klein *et al.*, 1978). An accounting system, which is characterized by its valuation on a historical cost basis, makes only approximate estimates for the future (Sun *et al.*, 2006). Even if accurate estimation can be reached, for a juridical system to be effective, the courts must not be at an informational disadvantage relative to the contracting parties (Yang and Nie, 2006). There are some future contingencies, however, that are common knowledge for the contracting parties, but unverifiable by the courts. In a situation of severe opportunistic behavior, a bank would have less demand for the information role of accounting information, because the post-contract opportunistic behavior changes the future contingencies on which the pre-contract estimation, even if highly accurate, was based, and such ex-ante estimation makes little sense.

Reputation, as an informal institution, is self-enforcing. As long as the present value of the gains from future transactions, which will be lost in the case of opportunistic behavior, outweigh those from present opportunistic behavior, in equilibrium no such behavior will occur, and there is no need for the assistance of a third party such as the courts. When the legal system is weak, reputation costs are lower than those arising from the governance role of accounting information in dealing with opportunistic behavior. In other words, a strong reputation can effectively substitute for this governance role. We thus refer to this phenomenon as reputation's substitution effect on accounting information. Reputation, however, provides banks with little information by which to evaluate a firm's repayment ability. A good reputation ensures a firm's willingness to honor a contract, but not necessarily its ability to do so. The bank must thus find a way to evaluate the firm's repayment ability. Accordingly, it will have greater demand for the information role of accounting information for firms with better reputations, which implies the existence of a complementary relationship between reputation and accounting information. Whether the aggregate effect is substitutional or complementary is an empirical question.

Figure 1. Reputation and Accounting Information in Debt Contracts



Given the poor creditor protection provided by the law and other formal institutions in China, it is difficult for accounting information, whose governance role is dependent on an explicit contract, to restrict post-contract opportunistic behavior. According to the foregoing analysis, China's institutional background should make it easier to observe reputation's substitution for the governance role of accounting information. However, there may also be differences in the complementary relationship between reputation and the information role of accounting in different types of firms. SOEs, for example, find it easy to acquire financial support and subsidies from the government; the government's reputation thus provides an implicit guarantee of these firms' repayment ability. As the government has nearly unlimited repayment ability and most major commercial banks in China are government-owned, banks have few concerns over repayment ability when they lend to SOEs. Consequently, in the case of these firms, there is a substitutional relationship between reputation and both the governance and information roles of accounting information, and thus a substitutional relationship between reputation and accounting information in the aggregate, which is the conclusion drawn by Sun *et al.* (2006). Non-SOEs, in contrast, have a natural link to neither state-owned banks nor the government's limitless repayment ability. Accordingly, these firms' reputation does not ensure their repayment ability, and hence a complementary relationship between reputation and accounting information is expected to be observed. Furthermore, if the substitution effect of a good reputation on the governance role of accounting information is dominated by the complementary effect of such a reputation on the information role of that information, then we can expect, in the aggregate, to observe a complementary relationship between reputation and accounting information in debt contracts.

2.2 Family Ownership and Reputation

Most non-SOEs listed in the Chinese stock market are family firms (based on

the criterion discussed in Section 3), and natural persons or families are usually their ultimate controlling owners. The controlling owners of such listed firms not only own a large share of the firms, but also hold important positions within them, such as directors, top executives and supervisors. Some studies suggest that controlling families may expropriate minority owners by separating cash flow rights and control rights (Classens *et al.*, 2000). There is no justification for viewing family control only as a means of expropriating minority owners, however, as the latter can protect themselves by discounting the firm's stock price and forcing the controlling family to bear the costs induced by the conflicts of interest between the two types of owners (Jensen and Meckling, 1976). In fact, in the presence of imperfect formal institutions, concentrated ownership is an efficient way to lower transaction costs and increase trust between transaction parties (Shleifer and Vishny, 1997; Fan and Wong, 2002). Concentrated ownership grants controlling families the power to sign contracts with creditors and other stakeholders and greater incentives to honor those contracts, thus remedying the defects of the legal system, such as its inability to enforce contracts. The following analysis demonstrates that the incentives to honor contracts are based on reputation. In other words, family ownership confers firms with a reputation, which has an influence over the usefulness of accounting information in debt contracts.

As previously noted, the mechanism by which reputation mitigates opportunistic behavior in equilibrium is as follows: the present value of future gains when the contract is honored is greater than the gains that would be realized were it to be breached in the present period. Hence, there are at least three conditions that must be met for reputation to have an effect, and family ownership can meet these conditions. First, the transaction relationship between the contracting parties should be a lengthy one (Klein and Leffler, 1981); otherwise, firms would not be motivated by gains from future transactions to honor the contracts. In family firms, the controlling families usually retain a large ownership stake, and the heritage of ownership ensures their long-term presence in the firm. As a result, the stakeholders of family firms expect to have long-term relationships with the same transaction parties, which may provide these firms with greater motivation to honor contracts.

Second, the present value of gains from future transactions must be sufficiently large to prevent the contracting parties from turning to opportunistic behavior to gain more. Both the reduction in the firm's gains and its net cash flows from future transactions due to opportunistic behavior are reflected in its stock price, which is the present value of its future net cash flows. Should such opportunistic behavior occur, the controlling family, which often has a large ownership stake in the firm, would suffer significant losses. Moreover, the family members employed by a family firm are usually paid less than their counterparts in the labor market. This underpayment represents a type of deferred consumption, which is similar to the situation in macroeconomic models in which more current period outputs are turned into savings to increase the consumption available in the future. Thus, a reduction in gains from future transactions due to opportunistic behavior will also cause a reduction in the future consumption available, which reduces the family members' future utility.

Third, reputation must be difficult to imitate; otherwise, it is unable to bring about lasting gains because of market competition for those gains (Klein *et al.*, 1978). A family firm's reputation does not adhere to the firm's physical assets, but rather to the members of the controlling family. The gains resulting from reputation are thus quite difficult to transfer to non-family members, although they can be more easily shared among family members through an implicit contract. Such inalienability renders a family firm's reputation virtually impossible to imitate.

Although family ownership is just one way to build reputation, the foregoing discussion of the relationship between reputation and accounting information can be applied to family firms, which leads us to this study's main hypothesis, as follows.

Hypothesis 1: *A family firm's reputation has a significant influence on the usefulness of accounting information in debt contracts. If the substitution effect of reputation on the governance role of accounting information is dominated by its complementary effect on the information role of that information, then the family firm's reputation will, in the aggregate, enhance the usefulness of accounting information in bank loan contracts. If, in contrast, the substitution effect dominates the complementary effect, then the family firm's reputation will diminish its usefulness in such contracts in the aggregate.*

3. Research Design

We now turn to a discussion of the method used to measure a family firm's reputation and accounting information, and introduce the basic model employed to test the hypothesis.

Most listed firms in the Chinese stock market are SOEs, which are quite different from, and hence not directly comparable to, non-SOEs. I adopt the method proposed by Classens *et al.* (2000) and Faccio and Lang (2002) and define non-SOEs with natural persons or a family as their ultimate controlling owners as family firms. By this criterion, most listed non-SOEs in China are family firms. It was quite difficult to classify the remaining non-family firms, most of which are owned by collectives or townships and are quasi-family controlled. I thus confined the sample to family firms that can be identified by their ultimate controlling owners. I then constructed variables to measure the three aforementioned conditions for a family firm's reputation to have an effect.[2]

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[2] Because this study's sample is confined to family firms, it was necessary to construct variables to measure the magnitude of these firms' reputation, which may be subjective and inaccurate. For example, the way in which I determined whether members of the controlling family were employed as top management may have underestimated the influence of family members. Comparing family firms and non-family firms directly may avoid the construction of reputation variables, as it requires only the identification of family firms. There are commonly agreed ways of identifying family firms, which would enhance the credibility of the conclusions drawn herein.

The first condition requires repeated games over a long period of time, which I measured indirectly because of the difficulty in confirming the founding date of family firms. Wang and Zhou (2006) split Chinese listed family firms into founding and non-founding family firms. A founding family firm must fulfill at least one of the three following conditions. (1) It went public through an initial public offering (IPO); (2) it went public by purchasing a controlling stake in a listed firm, and then injected the assets of its business into a shell firm as the prime operating business of the new firm; or (3) it was a non-family listed firm, but became family-owned after a management buyout (MBO), and the new controlling owners or their family members have been board directors, top executives or supervisors since the firm was listed. The prime operating business of a founding family firm was created by the family. As the firm makes frequent deals with stakeholders, its reputation grows along with its business. A non-founding family firm usually goes public through the takeover of an SOE and leaves the prime operating business, which is often different from the business created by the family, unchanged. The reputation built up by the family is probably business- or industry-specific, and thus cannot be transferred to a new business, industry or stakeholders. Hence, founding family firms are expected to enjoy a better reputation than their non-founding family counterparts. This study employs the dummy variable founder to distinguish founding and non-founding family firms.[3]

According to our second condition, the gains from future transactions must be larger than those from current opportunistic behavior. As it is difficult to measure the latter gains, I measured only the gains from future transactions approximately by employing the cash flow rights of the controlling family (*cr*) and their market value (*mvalue*).[4] I assumed that the gains from future transactions are the future cash flows of the firm. On the one hand, the greater the cash flow rights the controlling family has, the larger the losses in the gains from future transactions will be. On the other hand, the greater the market value of ownership, which is the present value of future cash flows, the larger the losses the family will suffer.

The third condition requires a family firm's reputation to adhere to the family members; hence, it cannot be shared by managers outside the controlling family. Consequently, the effects of reputation will be more pronounced if members of the controlling family serve as board directors, top executives or supervisors. Moreover, these family members have greater incentives to build and maintain the firm's reputation, which is quite important if that reputation is to have any effect. I thus employed the dummy variable *inboard* to identify whether any members of the controlling family served as board directors, top executives or supervisors.

To consider the impacts of the three conditions simultaneously, I also constructed two comprehensive variables *combine1* and *combine2*. *Combine1* equals *founder*inboard*cr* and *combine2* equals *founder*inboard*mvalue.*

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[3] See Table 2 for definitions of the variables.

[4] The parentheses contain the names of the variables.

In line with Sun *et al.* (2006), I also adopted 10 accounting measures: current ratio (*current*), acid-test ratio (*acid*), cash ratio (*cratio*), equity ratio (*eratio*), interest coverage (*cover*), liquidation value ratio (*liquid*), gross profit margin (*oi*), return on equity (*roe*), return on assets (*roa*) and asset turnover (*turnover*). These measures are widely used by banks in their loan decisions. Using factor analysis, I also extracted a few common factors from these 10 measures to retain the information contained within them but, at the same time, mitigate any multicollinearity stemming from the high degree of correlation between them. Factor analysis resulted in two common factors, *factor1* and *factor2*, based on the requirement that the eigenvalues are greater than 1 (see Section 5 for further details of the factor analysis).

The following model, which was proposed by Sun *et al.* (2006), was used to test Hypothesis 1.

$$newloan_t = ß_1 factor1_{t-1} + ß_2 factor2_{t-1} + ß_3 rep_t + ß_4 rep_t^* factor1_{t-1} + ß_5 rep_t^* factor2_{t-1} + ß_6 lnsize_{t-1} + ß_7 grow_t + ß_8 cfio_t + ß_9 offer_t + Industry\ \&\ Year\ Dummies + \text{Constant} \quad (1)$$

Interest rates have not yet been liberalized in China. Banks can adjust the loan amount, but not its interest rate, according to the borrower's repayment ability and risk level. Consequently, I used each year's newly obtained bank loans (*newloan*) to measure a listed company's ability to borrow from banks, in other words, the amount that banks are willing to lend to it. This measure, however, also reflects the difference between firms in their demand for bank loans. Although my empirical tests focus on the interaction terms of the reputation and accounting information measures, which are unlikely to be influenced by this difference, I also added proxies for bank loan demand as control variables. In the primary analysis, again based on Sun *et al.* (2006), I employed operating revenue growth (*grow*), the retained cash flow ratio (*cfio*) and cash flows from a seasoned equity offering (*offer*) to control for this demand approximately, whereas additional control variables were included in robustness tests. *rep* in model (1) represents a family firm's reputation, and includes the variables *founder, cr, mvalue, inboard, combine1* and *combine2*. According to Hypothesis 1, a family firm's reputation has a significant influence on the usefulness of accounting information in debt contracts; thus, the expectation was that $ß_4$ and $ß_5$ would be statistically significant. Further, if the substitution effect of reputation on the governance role of accounting information is dominated by its complementary effect on the information role of that information, then $ß_4$ and $ß_5$ should be statistically greater than zero. If, in contrast, the substitution effect dominates the complementary effect, then $ß_4$ and $ß_5$ should be statistically less than zero. The industry and year dummy variables in model (1) are designated "*Industry & Year dummies*." Industry classification is based on the two-digit China Securities Regulatory Commission (CSCR) industry classification code for the manufacturing industry and the one-digit code for other industries.

4. Sample Selection

Most publicly traded companies in China do not disclose their ultimate controlling owners and the pyramidal ownership structure until 2004. To obtain sufficient information by which to identify family firms and to calculate the cash flow rights of the controlling owners, I chose 2004-2007 as the sample period. Sample selection began by collecting the names of all companies that issued A-shares on the Shanghai and Shenzhen stock exchanges and had natural persons or families as their controlling owners between 2004 and 2007. I then deleted firm-year observations according to the criteria presented in Table 1 to obtain a final sample of 1,058 firm-year observations. Financial and stock market data were obtained from the Wind and China Center for Economic Research (CCER) systems. Information on ultimate controllers was obtained from the corporate governance database in the CCER system. Information on the presence of the ultimate owners and their family members among the firms' top management, as well as their cash flow and control rights, was manually collected from the sample companies' financial reports and other public disclosures. I applied the method proposed by Classens *et al.* (2000) to calculate cash flow and control rights. For the recent IPO family firms (especially IPOs after 2004), I was able to collect the relevant top management information from the companies' prospectuses, and there was usually little change over the sample period. When there were changes in a company's top management during this period, I used the Wind system and an Internet search to determine whether these changes were related to the controlling owner's family. For companies that had gone public through an IPO a long time ago or had become family-owned through a M&A, I first searched the "information on the board of directors and the management" in the Wind system and then looked for "basic information on current directors, top executives and supervisors" in the companies' annual reports, followed by an Internet search if the preceding search failed to confirm kinship between a member of top management and the controlling owners. If all of these searches failed, then I identified this person as a non-member of the given controlling owner's family. As this search process may have missed some family members among the top management of the sample companies, I did not measure the number of such family members. Instead, as long as one family member was confirmed to be employed as a top manager, I set the dummy *inboard* to 1.

Table 1. Sample Selection

Select firms (1) that are listed in the 2004-2007 period, (2) have natural persons or families as controlling owners, (3) whose listing status was not terminated or suspended in the corresponding year, and (4) whose controlling owners can exert actual control (the control rights of the ultimate owners are greater than 10%; firms with controlling owners arrested in the corresponding year are deleted).	1,562
Exclude firms in their first year when listed through an IPO or M&A.	299
Exclude firms issuing B or H shares.	71
Exclude observations with missing data needed to estimate model (1).	134
Firm-year observations in the final sample.	1,058

Table 2. Definitions of Main Variables

Variable	Definition
current	current ratio = current assets/ current liabilities
cratio	cash ratio = (year-end cash and cash equivalents)/current liabilities
cover	interest coverage = (net income + income tax + financial expense)/interest expense
oi	gross profit margin = operating revenue - operating costs/ operating revenue
roa	return on assets = (net income + financial expense)/average total assets
asid	acid-test ratio = (current assets - inventory)/current liabilities
eratio	equity ratio = total equity/total assets
liquid	liquidation value ratio = total debt/(total equity - intangible assets - deferred income tax)
roe	return on equity = net income/ average total equity
turnover	asset turnover = operating revenue/average total assets
founder	dummy that equals 1 for a founding-family firm and 0 otherwise (see Wang and Zhou's research design (2006) or that in this paper for further details)
inboard	dummy that equals 1 if a member of the controlling family is a board director, top executive or supervisor
cr	controlling owners' cash flow rights calculated using the method described in Classens et al. (2000)
mvalue	natural logarithm of the market value of the listed company's outstanding A-shares multiplied by the controlling owners' cash flow rights
*combine*1	combination equaling *founder * inboard * cr*
*combine*2	combination equaling *founder * inboard * mvalue*
*factor*1	common factor representing a firm's repayment ability
*factor*2	common factor representing a firm's profitability
newloan	newly obtained bank loans = (bank loans at the end of the year - bank loans at the beginning of the year)/total assets at the beginning of the year, with bank loans being the sum of long-term loans, short-term loans and long-term loans due within the year
lnsize	natural logarithm of total assets
cfio	retained cash flow ratio = (net amount of cash flow generated from operating activities - net amount of cash flow generated from investing activities)/total assets at the beginning of the year
grow	operating revenue growth rate
offer	cash flow from seasoned equity offering/total assets at the beginning of the year
follow	natural logarithm of one plus the number of analysts making earnings forecasts for year t or recommendations in year t, ie, log(1+number of analysts)
$risk_t$	standard deviation of monthly abnormal returns from May of year t-1 to April of year t+1[5] (monthly abnormal returns are the monthly return adjusted by dividends minus the monthly return of the Shanghai or Shenzhen A-share index, depending on which exchange the company is listed on)
eps	earnings per share = net income/total shares outstanding at the end of the year
ACCRUAL	total accruals = net income - net cash flows generated from operating activities
CFO	net cash flows generated from operating activities

[5] At least 10 monthly return observations from May of year t-1 to April of year t+1 are required.

5. Empirical Results

5.1. Factor Analysis

The results of factor analysis on the 10 accounting variables defined in Section 4 are presented in Tables 3 and 4.

Table 3. Eigenvalues of the Common Factors and the Cumulated Variance Explained by These Factors

	Eigenvalues	Cumulated variance explained
factor1	4.44805	0.6819
factor2	1.53012	0.9164
factor3	0.65394	1.0167

As can be seen in Table 3, the eigenvalues of the first two common factors are greater than 1, whereas that of the third is only 0.65. As this study requires that eigenvalues be greater than 1, only *factor1* and *factor2* were retained for further analysis. These two common factors explain 92% of the variance in the 10 accounting variables, and most of the information incorporated in these variables is reserved. The first, that is, *factor1*, has greater factor loading on variables *acid*, *liquid*, *cratio* and *eratio*, which indicate repayment ability, whereas the second, *factor2*, has greater such loading on variables *roa* and *roe*, which indicate profitability.

Table 4. Factor Loadings and Factor Scores

	Factor loading		Factor score	
	factor1	*factor2*	*factor1*	*factor2*
acid	0.8877	-0.2998	0.31078	-0.22167
current	0.8869	-0.2204	0.18384	-0.11018
liquid	0.8572	-0.2684	0.21106	-0.18303
cratio	0.8325	-0.1885	0.09331	-0.06822
eratio	0.8063	-0.0442	0.13220	0.01156
roa	0.5477	0.7476	0.21259	0.61705
roe	0.4597	0.7400	0.06215	0.31035
cover	0.4355	0.1370	0.02751	0.03262
oi	0.2615	0.0419	0.00323	-0.05861
turnover	0.1623	0.3938	-0.00699	0.07222

5.2. Descriptive Statistics

Table 5 presents the descriptive statistics of the main variables.

Table 5. Descriptive Statistics of Main Variables

Variable	Mean	Standard deviation	Median
current	1.37	0.88	1.18
acid	0.97	0.78	0.80
liquid	0.99	1.13	0.67
turnover	0.63	0.54	0.53
roe	0.04	2.46	0.06
roa	0.04	0.09	0.05
cover	17.13	150.51	3.41
eratio	0.54	0.19	0.55
newloan	0.03	0.16	0.01
factor1	0.00	0.98	-0.19
factor2	0.00	0.93	0.20
lnsize	11.67	0.82	11.66
cfio	0.11	0.17	0.09
grow	4.23	116.98	14.25
offer	0.02	0.08	0.00
founder	0.73	0.45	1.00
inboard	0.78	0.42	1.00
cr	22.57	14.36	20.12
mvalue	10.23	1.33	10.16
combine1	16.45	17.12	13.16
combine2	6.50	4.95	9.42

Table 6 is the correlation matrix of the main variables. We can see from this matrix that *cr* and *mvalue* are highly correlated (0.648), which indicates that they have a substantial amount of information in common, and it is thus reasonable to use them to measure the second condition for a family firm's reputation to have an effect. Except for *founder* and *inboard*, the correlations between the individual reputation variables are below 0.3, which implies that they separately reflect different aspects of reputation. The correlations between the two comprehensive reputation variables and the four individual variables are almost all greater than 0.5, which implies that there is little loss in information when *combine1* and *combine2* are constructed through multiplication. The correlations between the other independent variables in model (1) are below 0.3, with only a few exceptions, which indicates that multicollinearity is not a significant problem.

Table 6. Correlation Matrix of Main Variables

	newloan	*factor1*	*factor2*	*founder*	*inboard*	*cr*	*mvalue*	*combine1*	*combine2*	*lnsize*	*offer*	*grow*	cfio
newloan	**1**	0.256	0.245	0.164	0.157	0.122	0.183	0.188	0.229	0.085	0.093	0.203	0.180
factor1	0.201	**1**	-0.009	0.231	0.110	0.187	0.220	0.243	0.223	-0.147	0.054	0.094	0.267
factor2	0.240	-0.018	**1**	0.079	0.140	0.106	0.308	0.168	0.257	0.304	0.262	0.170	0.272
founder	0.160	0.219	0.099	**1**	0.398	0.268	0.255	0.697	0.697	0.061	0.117	0.104	0.101
inboard	0.143	0.088	0.158	0.398	**1**	0.247	0.216	0.604	0.604	0.048	0.055	0.151	0.168
cr	0.115	0.177	0.091	0.261	0.226	**1**	0.644	0.672	0.518	0.017	0.062	0.082	0.070
mvalue	0.177	0.177	0.314	0.259	0.226	0.648	**1**	0.493	0.640	0.419	0.231	0.202	0.184
combine1	0.160	0.222	0.150	0.591	0.512	0.793	0.538	**1**	0.897	0.852	0.102	0.155	0.170
combine2	0.201	0.178	0.205	0.801	0.695	0.399	0.430	0.795	**1**	0.259	0.202	0.205	0.210
lnsize	0.070	-0.162	0.321	0.076	0.067	0.053	0.448	0.094	0.175	**1**	0.088	0.069	0.038
offer	0.110	0.011	0.177	0.111	0.050	0.091	0.234	0.098	0.132	0.041	**1**	0.154	0.115
grow	0.097	-0.046	0.064	0.080	0.096	0.061	0.118	0.092	0.109	0.024	0.084	**1**	0.240
cfio	0.220	0.236	0.211	0.103	0.147	0.058	0.178	0.146	0.194	0.053	0.126	0.102	**1**

Notes: The lower triangle represents the Pearson correlation coefficients and the upper the Spearman coefficients.

5.3. Main Results

All of the continuous variables used in the following regression models are winsorized at the top and bottom 1% levels.

5.3.1. Estimation and Explanation of Model (1)

The regression results for model (1) are presented in Table 7. The coefficients of the interaction terms between the reputation variables and the accounting variables, *rep*factor1* and *rep*factor2*, are greater than 0 when all of the reputation variables, namely, *founder*, *inboard*, *cr*, *mvalue*, *combine1* and *combine2*, are included. In most cases, the interactions are both statistically and economically significant. Take $ß_5$ in Column 1 of Table 7 as an example. When *cr* increases from the first quartile (11.86) to the third quartile (29.43), it improves the effect of *factor2* by 62%. The model (1) results show that a family firm's reputation improves the usefulness of accounting information in debt contracts, which implies that the substitution effect of a family firm's reputation on such information is weaker than its complementary effect, which is in line with the discussion in Section 2. To examine the three aforementioned reputation conditions, most of the following analysis considers the results for *combine1* and *combine2*, rather than those for each of the individual reputation variables, that is, *founder*, *inboard*, *cr* and *mvalue*.

Table 7. How Reputation Influences the Usefulness of Accounting Information in Debt Contracts: Estimation Results of Model (1)

	(1)	(2)	(3)	(4)	(5)	(6)
dep.=	newloan	newloan	newloan	newloan	newloan	newloan
rep=	cash rights	founder	board	mvalue	combine1	combine2
factor1	0.0176***	0.0100*	0.0091*	0.0057	0.0146***	0.0083**
	(0.006)	(0.006)	(0.005)	(0.031)	(0.004)	(0.004)
factor2	0.0142**	0.0138***	0.0190***	-0.0334	0.0179***	0.0168***
	(0.006)	(0.005)	(0.005)	(0.028)	(0.004)	(0.004)
rep	0.0004*	0.0248***	0.0227***	0.0066*	0.0004*	0.0023***
	(0.000)	(0.007)	(0.008)	(0.004)	(0.000)	(0.001)
rep*factor1	0.0001	0.0128*	0.0150**	0.0014	0.0003	0.0019***
	(0.000)	(0.007)	(0.006)	(0.003)	(0.000)	(0.001)
rep*factor2	0.0005**	0.0181***	0.0084	0.0061**	0.0005***	0.0017***
	(0.000)	(0.006)	(0.007)	(0.003)	(0.000)	(0.001)
Constant	-0.0046	-0.0248	-0.0296	-0.0143	-0.0030	-0.0086
	(0.051)	(0.050)	(0.051)	(0.052)	(0.051)	(0.051)
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummy	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R-square	0.139	0.146	0.141	0.138	0.144	0.151
F-stat	7.20	7.71	7.10	7.28	7.71	7.88
Obs	1,058	1,058	1,058	1,058	1,058	1,058

*Note: Control variables include lnsize, grow, cfio and offer. White-adjusted standard errors are in parentheses. ***, ** and * denote two-tailed significance at the 1%, 5% and 10% level, respectively.*

5.3.2. Alternative Explanations

5.3.2.1. Do the Reputation Variables Have Other Implications?

Our definition of founding family firms is likely to imply the type of privatization: IPO or M&A. To address the impact this possibility may have on the results, I used founder as the reputation variable and added variables *IPO*, *IPO*factor1* and *IPO*factor2* to model (1). The dummy *IPO* equals 1 if the company went public via an IPO and 0 otherwise. The results of this alternative, which are shown in Column 1 of Table 8A, do not change the conclusions in Table 7.

In addition, differences in *cr* may reflect differences in the way that controlling owners control listed companies, as it is common for listed family firms in China to be controlled through a pyramidal or cross-holding structure, which dilutes the cash flow rights of the ultimate owners. To address this concern, variables indicating different types of control, *pyramid*, *pyramid*factor1* and *pyramid*factor2*, were included in model (1). The dummy *pyramid* equals 1 if the company is controlled through a pyramidal or cross-holding structure and 0 otherwise. The results are shown in Column 2 of Table 8A, from which it can be seen that they fail to change the conclusions in Table 7.

Table 8A. Do the Reputation Variables Have Other Implications?

	(1)	(2)
dep.=	newloan	newloan
rep=	founder	cash rights
factor1	0.0105*	0.0187
	(0.006)	(0.012)
factor2	0.0136***	0.0143
	(0.005)	(0.011)
rep	0.0205**	0.0004
	(0.008)	(0.000)
rep*factor1	0.0160**	0.0001
	(0.008)	(0.000)
rep*factor2	0.0195***	0.0004*
	(0.007)	(0.000)
IPO	0.0120	
	(0.008)	
IPO*factor1	-0.0076	
	(0.008)	
IPO*factor2	-0.0027	
	(0.008)	
pyramid		-0.0171
		(0.014)
pyramid*factor1		-0.0014
		(0.010)
pyramid*factor2		0.0000
		(0.010)
Constant	-0.0143	0.0076
	(0.051)	(0.052)
Control Variables	Yes	Yes
Industry Dummy	Yes	Yes
Year Dummy	Yes	Yes
Adj. R-square	0.145	0.138
F-stat	7.60	6.64
Obs	1,058	1,058

*Note: Control variables include lnsize, grow, cfio and offer. White-adjusted standard errors are in parentheses. ***, ** and * denote two-tailed significance at the 1%, 5% and 10% level, respectively.*

I next investigated whether the reputation variables reflect differences in companies' information environment, which would have an impact on the usefulness of accounting information in debt contracts. I adopted the quality of the accounting firm employed by a listed company and the number of analysts who follow that company to proxy for its information environment. High-quality auditing improves the credibility of a company's financial reports, thus increasing the usefulness of accounting information (in terms of both its information and governance roles) in debt contracts. Analysts enhance company transparency by collecting and diffusing private information (Bushman *et al.*, 2004), which can serve as a substitute for publicly disclosed accounting information. I judged accounting firm quality by the "Information on Comprehensive Evaluation of Top 100 Accounting Firms" published annually by the Chinese Institute of Certified Public Accountants (CICPA).[6] The dummy *top10* equals 1 if the company employed a Top 10 accounting firm in year t or year t-1 and 0 otherwise.[7] Analysts were considered if they made earnings forecasts for year t or recommendations in year t. The variable *follow* is defined as the natural logarithm of one plus the number of analysts in year t. The impact of the information environment was then addressed through the following model.

$$\begin{aligned} newloan_t = {} & \beta_1 factor1_{t-1} + \beta_2 factor2_{t-1} + \beta_3 rep_t + \beta_4 rep_t * factor1_{t-1} + \beta_5 rep_t * factor2_{t-1} \\ & + \beta_6 info_t + \beta_7 info_t * factor1_{t-1} + \beta_8 info_t * factor2_{t-1} + \beta_9 \ln size_{t-1} + \beta_{10} grow_t \\ & + \beta_{11} cfio_t + \beta_{12} offer_t + Industry\ \&\ Year\ Dummies + \text{Constant} \end{aligned} \quad (2)$$

In model (2), the variable *info* is replaced by *top10* and *follow*. The results of this model are presented in Columns 1 to 4 of Table 8B, and leave the conclusions in Table 7 unchanged.

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[6] The criteria used by the CICPA for evaluation and ranking include total revenue, number of certified public accountants (CPAs), completion of continuous professional development (CPD), number of candidates enrolled in the professional talent pool and penalties.

[7] I did not use the "Big Four" as the criterion for measuring the quality of accounting firms because too few firms in my sample employed one of the "Big Four."

Table 8B. Do the Reputation Variables Reflect Differences in the Information Environment?

	(1)	(2)	(3)	(4)
dep.=	newloan	newloan	newloan	newloan
rep=	combine1	combine1	combine2	combine2
info=	follow	top10	follow	top10
factor1	0.0196***	0.0136***	0.0138***	0.0076*
	(0.005)	(0.004)	(0.005)	(0.004)
factor2	0.0129***	0.0185***	0.0128***	0.0170***
	(0.004)	(0.004)	(0.004)	(0.004)
rep	0.0003	0.0004**	0.0020***	0.0024***
	(0.000)	(0.000)	(0.001)	(0.001)
rep*factor1	0.0004**	0.0003	0.0022***	0.0019***
	(0.000)	(0.000)	(0.001)	(0.001)
rep*factor2	0.0004**	0.0005***	0.0013*	0.0018***
	(0.000)	(0.000)	(0.001)	(0.001)
info	0.0099**	-0.0079	0.0085**	-0.0103
	(0.004)	(0.011)	(0.004)	(0.011)
info*factor1	-0.0083**	0.0069	-0.0082**	0.0063
	(0.004)	(0.009)	(0.004)	(0.009)
info*factor2	0.0040	-0.0057	0.0039	-0.0050
	(0.004)	(0.012)	(0.005)	(0.012)
Constant	0.0722	-0.0077	0.0566	-0.0131
	(0.056)	(0.051)	(0.056)	(0.051)
Control Variables	Yes	Yes	Yes	Yes
Industry Dummy	Yes	Yes	Yes	Yes
Year Dummy	Yes	Yes	Yes	Yes

	(1)	(2)	(3)	(4)
dep.=	newloan	newloan	newloan	newloan
rep=	combine1	combine1	combine2	combine2
info=	follow	top10	follow	top10
Adj. R-square	0.152	0.143	0.157	0.149
F-stat	7.63	7.08	7.61	7.25
Obs	1,058	1,058	1,058	1,058

*Note: Control variables include lnsize, grow, cfio and offer. White-adjusted standard errors are in parentheses. ***, ** and * denote two-tailed significance at the 1%, 5% and 10% level, respectively.*

5.3.2.2 Do Companies with Stronger Reputations Have Higher-quality Accounting Information?

If companies with stronger reputations have better-quality accounting information, then we would observe a greater degree of usefulness in the accounting information of these companies in debt contracts. To consider this possibility, I next investigated whether the results in Table 7 are driven by differences in accounting information quality through conditional conservatism and discretionary accruals.

I added reputation variables and the control variables *lnsize*, *age* and *risk* to the Basu (1997) model, following He *et al.* (2008), Sun *et al.* (2005) and Ball and Shivakumar (2005). *Age* is the natural logarithm of the number of years since the company was listed. The Basu model becomes:

$$\begin{aligned}\frac{EPS_{t-1}}{P_{t-2}} &= \beta_1 RET_{t-1} + \beta_2 DRET_{t-1} + \beta_3 RET_{t-1} * DRET_{t-1} + \beta_4 rep_t + \beta_5 rep_t * RET_{t-1} \\ &+ \beta_6 rep_t * DRET_{t-1} + \beta_7 rep_t * RET_{t-1} * DRET_{t-1} + \sum_{k=1,2,3} (\beta_{8,k} control \\ &+ \beta_{9,k} control * RET_{t-1} + \beta_{10,k} control * DRET_{t-1} + \beta_{11,k} control * RET_{t-1} * DRET_{t-1}) \\ &+ Industry\ \&\ Year\ \ Dummies + \text{Constant} \qquad (3)\end{aligned}$$

In model (3), RET_{t-1} is the monthly compound return adjusted by the market return from May of year t-1 to April of year t, namely, $RET_{t-1} = \prod_{j=0}^{11} (1+(\text{ret}_{T-j} - mret_{T-j}))$, where *ret* is the raw return of a company and T is April of year t. The market return, *mret*, is the return of the Shanghai or Shenzhen A-share index, depending on the exchange on which the company is listed. *DRET* is a dummy that equals 1 if $RET_{t-1} < 0$ and 0 otherwise. The results of model (3) are shown in Columns 1 and 2 of Table 9A. We can see that $\beta_7 < 0$, which suggests that companies with a better reputation have an insignificantly lower degree of conservatism at the 10% level.

Table 9A. Reputation and Conditional Conservatism – the Basu (1997) Model

	(1)	(2)	(3)	(4)
dep.=	EPS/P	EPS/P	EPS/P	EPS/P
rep=	combine1	combine2	combine1	combine2
RET	0.3219	0.3252	0.3507	0.3634
	(0.418)	(0.421)	(0.413)	(0.415)
RET*DRET	0.0814	0.0842	0.0704	0.0643
	(0.535)	(0.535)	(0.518)	(0.521)
DRET	0.1524	0.1583	0.1643	0.1720
	(0.118)	(0.119)	(0.115)	(0.116)
rep	-0.0000	-0.0003	-0.0001	-0.0006
	(0.000)	(0.001)	(0.000)	(0.001)
rep*DRET	0.0001	0.0012	0.0001	0.0014
	(0.000)	(0.002)	(0.000)	(0.002)
rep*RET*DRET	-0.0024	-0.0079	-0.0026	-0.0077
	(0.002)	(0.006)	(0.002)	(0.006)
rep*RET	0.0002	0.0009	0.0005	0.0016
	(0.001)	(0.004)	(0.001)	(0.004)
newloan			0.0673	0.0669
			(0.042)	(0.042)
newloan*RET			-0.0907	-0.0821
			(0.133)	(0.141)
newloan*DRET			-0.0529	-0.0533
			(0.062)	(0.062)
newloan*RET*DRET			-0.3741	-0.3978
			(0.241)	(0.248)
rep*RET*DRET*newloan			0.0001	0.0053
			(0.006)	(0.017)
Constant	-0.1505*	-0.1495*	-0.1549*	-0.1565*
	(0.087)	(0.087)	(0.085)	(0.086)
Industry Dummy	Yes	Yes	Yes	Yes
Year Dummy	Yes	Yes	Yes	Yes

	(1)	(2)	(3)	(4)
dep.=	EPS/P	EPS/P	EPS/P	EPS/P
rep=	combine1	combine2	combine1	combine2
Adj. R-square	0.253	0.262	0.290	0.296
F-stat	6.15	6.38	6.75	6.86
Obs	1,037	1,037	1,037	1,037

*Note: Control variables include lnsize, age and risk and their interactions with RET and DRET. White-adjusted standard errors are in parentheses. ***, ** and * denote two-tailed significance at the 1%, 5% and 10% level,*

From the second half of 2006 to the end of 2007, the Chinese stock market experienced a boom. To address concerns over irrational stock price movements in a bull market, I also adopted the following Ball and Shivakumar (2005) model, which does not use stock price data, and repeated the conditional conservatism test.

$$\begin{aligned} ACCRUAL_{t-1} = {} & \beta_1 CFO_{t-1} + \beta_2 DCFO_{t-1} + \beta_3 CFO_{t-1} * DCFO_{t-1} + \beta_4 rep_t + \beta_5 rep_t * CFO_{t-1} \\ & + \beta_6 rep_t * DCFO_{t-1} + \beta_7 rep_t * CFO_{t-1} * DCFO_{t-1} + \sum_{k=1,2,3} (\beta_{8,k} control \\ & + \beta_{9,k} control * CFO_{t-1} + \beta_{10,k} control * DCFO_{t-1} + \beta_{11,k} control * CFO_{t-1} * \\ & DCFO_{t-1}) + Industry \ \& \ Year \ Dummies + \text{Constant} \end{aligned} \quad (4)$$

In model (4), *DCFO* is a dummy that equals 1 if $CFO_{t-1} - CFO_{t-2} < 0$ and 0 otherwise. *ACCRUAL* and *CFO* are scaled by total assets at the beginning of the year. The control variables are the same as those in model (3). Model (4) assumes a positive correlation between cash flows in the current period and those in the future, which renders reasonable the substitution of a change in current period cash flows for stock returns to reflect the change in future economic income. Further, conditional conservatism is reflected through accruals, which suggests a positive correlation between accruals and a negative change in current period cash flows (and predicts a negative change in future cash flows). The results of model (4), which are shown in Columns 1 and 2 of Table 9B, suggest that companies with better reputations have an insignificantly higher degree of conservatism. The combined results of models (3) and (4) lead to the conclusion that there is no strong evidence to suggest that companies with better reputations have a higher degree of conditional conservatism.

Table 9B. Reputation and Conditional Conservatism – Ball and Shivakumar(2005) Model

	(1)	(2)	(3)	(4)
dep.=	ACCRUAL	ACCRUAL	ACCRUAL	ACCRUAL
rep=	combine1	combine2	combine1	combine2
CFO	0.3790	0.3627	0.3990	0.3750
	(0.700)	(0.703)	(0.692)	(0.694)
CFO*DCFO	-0.2344	-0.3089	-0.4510	-0.6390
	(1.001)	(1.010)	(0.950)	(0.970)
DCFO	0.1460	0.1569	0.1541	0.1618
	(0.112)	(0.112)	(0.108)	(0.108)
rep	0.0008***	0.0033***	0.0006**	0.0027***
	(0.000)	(0.001)	(0.000)	(0.001)
rep*DCFO	-0.0003	-0.0014	-0.0002	-0.0012
	(0.000)	(0.001)	(0.000)	(0.001)
rep*DCFO*CFO	0.0003	0.0114	0.0015	0.0122
	(0.004)	(0.013)	(0.004)	(0.014)
rep*CFO	-0.0032	-0.0154**	-0.0023	-0.0109
	(0.002)	(0.007)	(0.002)	(0.008)
newloan			0.1984***	0.1954***
			(0.042)	(0.042)
newloan*DCFO			-0.0611	-0.0615
			(0.052)	(0.051)
newloan*CFO			-0.9791***	-0.9427***
			(0.296)	(0.299)
newloan*DCFO*CFO			1.4208**	2.0396***
			(0.627)	(0.682)
rep*newloan*DCFO*CFO			-0.0518**	-0.2123**
			(0.023)	(0.086)
Constant	-0.2068**	-0.2052**	-0.2018**	-0.2004**
	(0.099)	(0.099)	(0.097)	(0.097)
Control Variable	Yes	Yes	Yes	Yes
Industry Dummy	Yes	Yes	Yes	Yes
Year Dummy	Yes	Yes	Yes	Yes
Adj. R-square	0.591	0.594	0.616	0.618
F-stat	59.92	59.35	65.86	62.35
Obs	1,057	1,057	1,057	1,057

*Note: Control variables include lnsize, age and risk and their interactions with CFO and DCFO. White-adjusted standard errors are in parentheses. ***, ** and * denote two-tailed significance at the 1%, 5% and 10% level, respectively.*

I next employed discretionary accruals calculated on the basis of the Jones (1991) model to measure accounting quality. Based on Xia's (2003) recommendation, I adopted operating income ($EBX1_{t-1}$) as the dependent variable to estimate the following model separately for each industry.[8]

$$\frac{EBXI_{t-1}}{SIZE_{t-2}} = \beta_1 \frac{1}{SIZE_{t-2}} + \beta_2 \frac{SALES_{t-1}}{SIZE_{t-2}} + \beta_3 \frac{PPE_{t-1}}{SIZE_{t-2}} + Year\ Dummy \quad (5)$$

In model (5), $SALES_{t-1}$ is the difference in sales in years t-1 and t-2, and PPE_{t-1} is the original value of property, plant and equipment. The fitted values from model (5) are defined as normal accruals (*NA*). *ACCRUAL*, which indicates total accruals, equals net income minus *CFO*, whereas discretionary accruals (*DA*) equals the absolute value of *ACCRUAL* minus *NA*. I split *combine1* into two sub-groups based on its median and determined, via the Wilcoxon rank-sum test, whether there was a significant difference in the medians and means of these two sub-groups. The same tests were applied to *combine2*, and the results are shown in Table 9C. Although companies with a stronger reputation have lower discretionary accruals, and the difference is significant at the 10% level in the case of *combine2*, the conclusions in Table 7 remain unaltered when *DA* is added to model (1) as an additional control variable (not reported).

Table 9C. Reputation and Discretionary Accruals – Jones (1991) Model

	Discretionary accruals	
	Mean	Median
Full sample	0.065	0.048
combine1 less than its median	0.067	0.050
combine1 greater than its median	0.063	0.046
DIFF	**0.004**	**0.004**
Mann-Whitney z-stat/Chi-square	**1.100**	**0.864**
combine2 less than its median	0.068	0.051
combine2 greater than its median	0.062	0.045
DIFF	**0.006**	**0.006**
Mann-Whitney z-stat/Chi-square	**1.676***	**3.010***

*Note: The difference in means and medians is determined via the Wilcoxon rank-sum test. The statistics for the mean test are Whitney z-stats, whereas those for the median are Chi-square. ***, ** and * denote two-tailed significance at the 1%, 5% and 10% level, respectively.*

[8] The industry classification is the same as that in model (1). Observations from the mining industry, electric power, steam and hot water production and supply industry, and the communication and cultural industry were fewer than 10 each, and a total of 16 observations from these industries were deleted.

5.3.3. Additional Tests

5.3.3.1. Complementary Relationship between Reputation and the Information Role of Accounting

Analysts boost firm transparency by collecting and diffusing private information (Bushman *et al.*, 2004). The forecasts they make of a company's future operational and financial condition are helpful in assessing that company's repayment ability, thus substituting for the information role of accounting information to a certain extent. If the greater-than-zero coefficients of *rep*factor*, as we have seen in Table 7, reflects the complementary relationship between reputation and the information role of accounting information, then analysts' private information will impair this relationship. If *rep*factor* coefficients greater than zero reflect the complementary relationship between reputation and the information role of accounting information, then analysts' private information will impair this relationship. This argument was tested through the following model.

$$\begin{aligned} newloan_t = {} & \beta_1 factor1_{t-1} + \beta_2 factor2_{t-1} + \beta_3 rep_t + \beta_4 rep_t * factor1_{t-1} + \beta_5 rep_t * factor2_{t-1} \\ & + \beta_6 rep_t * factor1_{t-1} * analyst_t + \beta_7 rep_t * factor2_{t-1} * analyst_t + \beta_8 analyst_t \\ & + \beta_9 analyst_t * rep_t + \beta_{10} analyst_t * factor1_{t-1} + \beta_{11} analyst_t * factor2_{t-1} \\ & + Contol\ Variables + Industry\ \&\ Year\ Dummies + \text{Constant} \end{aligned} \quad (6)$$

If analysts' private information impairs the aforementioned complementary relationship, then β_6 and β_7 in model (6) will be negative. The results of this model are shown in Table 10, from which it can be seen that the coefficients of *analyst*rep*factor1* and *analyst*rep*factor2* are negative, as expected, with that of the former reaching statistical significance.

Table 10. Influence of Analysts' Private Information on the Complementary Relationship between Reputation and Accounting Information

	(1)	(2)
dep.=	newloan	newloan
rep=	combine1	combine2
factor1	0.0102**	0.0092
	(0.005)	(0.006)
factor2	0.0139***	0.0120**
	(0.005)	(0.005)
rep	0.0004	0.0017*
	(0.000)	(0.001)
rep*factor1	0.0011***	0.0032***
	(0.000)	(0.001)
rep*factor2	0.0005*	0.0017**
	(0.000)	(0.001)
analyst*rep*factor1	-0.0005***	-0.0011*
	(0.000)	(0.001)
analyst*rep*factor2	-0.0002	-0.0010
	(0.000)	(0.001)
analyst	0.0090	0.0043
	(0.006)	(0.007)
analyst*rep	0.0001	0.0007
	(0.000)	(0.001)
analyst* factor1	0.0015	-0.0009
	(0.005)	(0.005)
analyst* factor2	0.0071	0.0097
	(0.006)	(0.006)
Constant	0.0730	0.0595
	(0.056)	(0.056)
Control Variables	Yes	Yes
Industry Dummy	Yes	Yes
Year Dummy	Yes	Yes
Adj. R-square	0.156	0.157
F-stat	7.34	7.05
Obs	1,058	1,058

*Note: Control variables include lnsize, grow, cfio and offer. White-adjusted standard errors are in parentheses. ***, ** and * denote two-tailed significance at the 1%, 5% and 10% level, respectively.*

5.3.3.2. Substitution of Reputation for the Governance role of Accounting Information

The substitution of reputation for the governance role of accounting information was tested directly through conditional conservatism, as the practice of conditional conservatism is shaped to a large degree by creditors' demand (Ball, 2001). Companies' gains and losses have an asymmetric impact on banks, as the latter must bear the consequences of the former's failure to repay their debts due to losses, although they do not share in any gains beyond the interest payments. To mitigate ex post opportunistic behavior, banks can require timelier accounting reports to ensure the disclosure of expected economic losses. If reputation can substitute for the governance role of accounting information, then banks should have less demand for conditional conservatism. To test this argument, I added *newloan*DRET*RET*rep* to model (3) and *newloan*DCFO*CFO*rep* to model (4). If reputation can substitute for the aforementioned governance role, then the coefficients of *newloan*DRET*RET*rep* in model (3) and *newloan*DCFO*CFO*rep* in model (4) should be significantly negative. The results, which are shown in Columns 3 and 4 of Tables 9A and 9B, show that the coefficient of *newloan*DCFO*CFO*rep* is indeed significantly negative, which provides at least partial evidence of reputation's ability to serve as a substitute for the governance role of accounting information.[9]

5.3.3.3. Impact of Legal System

There are great differences in the legal environment across provinces and districts in China. If the legal system can protect creditors in a cost-effective manner, then the effect of reputation on opportunistic behavior, as well as the substitution and complementary effect between reputation and accounting information, will be less pronounced. β_4 and β_5 in model (1) are expected to be closer to zero when the legal system in the province in which a listed firm is registered is more efficient. I used two sets of data to measure the provincial-level legal environment. The first set comes from the legal system index in the "NERI Index of Marketization of China's Provinces" by Fan *et al.* (2007), with data available up to 2005. The second set comes from the rule of law index published by the World Bank in 2007. Because neither set of data matches this study's sample period, and the two sets cannot be compared to each other, I used the values from the data to determine the legal environment of the provinces and then divided the provinces into sub-groups, rather than directly using the original values. More specifically, I averaged the 2004 and 2005 legal indexes for each province based on the first set of data and

[9] It should be noted that models (3) and (4) estimate the relationship between last year's earnings conservatism and the current year's newly obtained loans, rather than the relationship between current-year earnings conservatism and current-year newly obtained loans. I structured them in this way because, when observing the weaker positive correlation between current-year conditional conservatism and newly obtained loans, it is impossible to distinguish whether firms reduce their conservatism ex post opportunistically or banks require less conservatism from firms with a stronger.

sorted them accordingly. As the second data set contained only 2007 data, I employed the original values to sort the provinces by legal environment. Most studies split the original sample by the median of a variable, but this method was considered possibly inappropriate in this study, as most of the listed firms in the sample were registered in provinces with a strong legal system. Thus, there would have been too few observations in the weak legal system sub-group if the sample had been divided by the median of the legal index. To balance the number of observations in each sub-group, I further divided the provinces in the strong legal system. The result was three sub-groups: strongest legal system (five provinces), weaker legal system (10 provinces) and weakest legal system (16 provinces). The number of observations in each sub-group is as follows.

Source	Strongest legal system sub-group	Weaker legal system sub-group	Weakest legal system sub-group
Fan et al.	472	348	253
World Bank	379	321	358

The results of model (1) estimated by these sub-groups are presented in Tables 11A and 11B, from which it can be seen that only two coefficients are statistically significant in the strongest legal system sub-group, whereas three are significant in the other two. Using Fan *et al.*'s index, I find that the magnitude and significance of the coefficients in the second sub-group, that is, the provinces with a weaker legal system, are greatest (except for *combine2*factor1*). Using the World Bank index, in contrast, results in the third sub-group (the provinces with the weakest legal system) having coefficients of the greatest magnitude and significance. The average of the coefficients in the second and third sub-groups is higher than that in the first sub-group in four out of eight cases. To summarize, I obtained only weak evidence of any substitution between a province's legal system and firm reputation. Such a system's impact on reputation is not monotonic, which may be due to the way in which I split the sample. It is also possible that the indexes themselves are problematic.

Table 11A. Legal System and Effects of Reputation – Measured by Fan et al.'s Index

	Strongest legal system (first sub-group)	Weaker legal system (second sub-group)	Weakest legal system (third sub-group)	Average of second and third sub-groups
combine1*factor1	0.0003	0.0009**	0.0003	0.0006
combine1*factor2	0.0004	0.0012***	0.0007*	0.001
combine2*factor1	0.0033***	0.0019	0.0007	0.0013
combine2*factor2	0.0012	0.0032**	0.0010	0.0021

*Note: Coefficients are the estimation results of model (1). ***, ** and * denote two-tailed significance at the 1%, 5% and 10% level, respectively.*

Table 11B. Legal System and Effects of Reputation – Measured by World Bank Index

	Strongest legal system (first sub-group)	Weaker legal system (second sub-group)	Weakest legal system (third sub-group)	Average of second and third sub-groups
combine1*factor1	0.0004	0.0000	0.0004	0.0004
combine1*factor2	0.0006	0.0002	0.0008**	0.0005
combine2*factor1	0.0038***	0.0011	0.0016	0.0014
combine2*factor2	0.0011	0.0009	0.0026**	0.0018

*Note: Coefficients are the estimation results of model (1). ***, ** and * denote two-tailed significance at the 1%, 5% and 10% level, respectively.*

5.4 . Robustness Tests

5.4.1. Serial Correlation Across Years

It is possible that firms' newly acquired bank loans in consecutive years are serially correlated.[10] The three following methods were employed to deal with this problem.[11] First, I added newly acquired bank loans in the previous year (*newloan_1*) as an additional control variable to model (1).[12] Second, I regressed model (1) year by year. The coefficients of the interaction terms between the reputation variables and *factor1* and *factor2* remained positive. When I adopted combine1 as the reputation variable, the interaction terms between *combine1* and *factor2* were significant in every year except 2005, which is consistent with the results reported in Table 7. When I adopted *combine2* as the reputation variable, the interaction terms were insignificant in 2004 and 2005, but significant in 2006 and 2007 at the 10% level. The magnitude of the coefficients estimated year by year are similar to those reported in Table 7 (except for 2005), but with much higher standard deviations, possibly due to the sharply reduced number of observations in the year-by-year regressions or to serial correlation, which cannot be excluded. Third, Newey-West adjustment was applied to the standard errors estimated from model (1). In summary, none of the three alternative estimation methods alters the results presented in Table 7.

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[10] The author thanks the anonymous reviewer who pointed out this problem. For example, if a firm obtained a large number of bank loans in the previous year, then it is unlikely to obtain many in the current year due to banks' concerns over risk control. Thus, there may be a negative relationship between loans obtained in consecutive years.

[11] It is ideal to handle serial correlation by using panel data. In this study, however, the construction of panel data would have resulted in the deletion of half the sample, possibly causing severe survival bias and selection bias. This limitation may be addressed by future researchers.

[12] Some observations were deleted due to missing data when calculating *newloan_1*.

Table 12. Dealing with Serial Correlation

	newloan_1	2004	2005	2006	2007	Newey-West
combine1*factor1	0.0005*	0.0006	0.0000	0.0001	0.0003	0.0003*
combine1*factor2	0.0004*	0.0009*	0.0002	0.0006**	0.0006**	0.0005***
combine2*factor1	0.0018**	0.0025	0.0008	0.0031**	0.0020*	0.0019***
combine2*factor2	0.0014**	0.0024	0.0005	0.0010	0.0022*	0.0017***

*Note: Coefficients are the estimation results of model (1). ***, ** and * denote two-tailed significance at the 1%, 5% and 10% level, respectively.*

5.4.2. Alternative Construction of Comprehensive Reputation Variables

In the foregoing section, the comprehensive reputation variables *combine1* and *combine2* are constructed via multiplication. I also constructed them via addition. More specifically, I created two dummies, *hcr* and *hmv*, based on the median of *cr* and *mvalue: hcr* is set to 1 if *cr* is greater than its median and to 0 otherwise, and *hmv* is set to 1 if mvalue is greater than its median and to 0 otherwise. *combine3* is defined as the sum of *founder*, *inboard*, and *hcr* and *combine4* as the sum of *founder*, *inboard*, and *hmv*. Adding *combine3* and *combine4* to model (1) does not alter the results reported in Table 7.

Table 13. Alternative Construction of Comprehensive Reputation Variables

	(1)	(2)
dep.=	newloan	newloan
rep=	combine3	combine4
factor1	0.0122**	0.0112*
	(0.004)	(0.006)
factor2	0.0209***	0.0095*
	(0.004)	(0.004)
rep	0.0054	0.0140***
	(0.007)	(0.004)
rep*factor1	0.0222***	0.0046
	(0.007)	(0.003)
rep*factor2	0.0233***	0.0093***
	(0.008)	(0.003)
Constant	0.0001	0.0092
	(0.051)	(0.055)
Control Variable	Yes	Yes
Industry Dummy	Yes	Yes
Year Dummy	Yes	Yes
Adj. R-square	0.144	0.148
F-stat	7.66	7.67
Obs	1,058	1,058

*Note: Control variables include lnsize, grow, cfio and offer. White-adjusted standard errors are in parentheses. ***, ** and * denote two-tailed significance at the 1%, 5% and 10% level, respectively.*

5.4.3. Additional Variables to Control for Differences in Demand for Bank Loans

As previously noted, the variable *newloan* in this study is used to measure the amount that banks are willing to lend to it, but it may also reflect the difference between firms in their demand for bank loans as well. To further control for between-firm differences in demand for bank loans, I added two additional variables to proxy for diversification and for whether more than one listed company was controlled by the same ultimate controlling owner. Industries were split in the same way as they were for model (1), after which the natural logarithm of the number of industries in which a company operates was computed based on its sales distribution among industry segments according to its annual report. These additional control variables do not alter the conclusions in Table 7 (not reported).

5.4.4. Differences in Operational Risk

A company's operational risk affects its ability to borrow. Although a company's size (*lnsize*) reflects such risk to a certain extent, I also measured it using the variable *risk*. The results of descriptive analysis, shown in Ta ble 14, suggest that there are significant differences in risk between companies with a good and poor reputation when *combine2* is employed as the reputation variable. Adding *risk* to model (1), however, does not alter the conclusions in Table 7 (not reported).

Table 14. Reputation and Operational Risk

	Volatility of stock returns	
	Mean	Median
Full sample	0.116	0.107
combine1 less than its median	0.119	0.108
combine1 greater than its median	0.113	0.106
DIFF	**0.004**	**0.002**
Mann-Whitney z-stat/Chi-square	**1.054**	**0.690**
combine2 less than its median	0.120	0.111
combine2 combine1 greater than its median	0.111	0.103
DIFF	**0.009**	**0.007**
Mann-Whitney z-stat/Chi-square	**2.655*****	**4.769****

*Note: The difference in means and medians is determined via the Wilcoxon rank-sum test. The statistics for the mean test are Whitney z-stats, whereas those for the median are Chi-square. ***, ** and * denote two-tailed significance at the 1%, 5% and 10% level, respectively.*

6. Conclusion

This study has investigated the relationship between accounting and reputation, an informal institution, in debt contracts in a setting characterized by an imperfect institutional environment. Creditors enjoy a poor level of protection in China, which does little to restrict borrowers' ex post opportunistic behavior. Although the governance role of accounting information can restrict opportunistic behavior, it usually fails in the presence of severe such behavior because the governance role of accounting information is based on the assumption of an explicit contract. Severe opportunistic behavior also impairs the information role of accounting information. Although reputation can substitute for the governance role of such information, it provides banks with little information by which to evaluate a firm's repayment ability. Although reputation may restrict opportunistic behavior, banks still require further accounting information to evaluate firms' repayment ability, thereby restoring the information role of accounting information. There is thus both a substitutional and complementary relationship between reputation and accounting information. The empirical results of this study, which was based on a sample of family firms listed in China's Chinese A-share stock market from 2004 to 2007, show that in China, where formal institutions are weak, the complementary relationship between reputation and accounting information is more pronounced than is the substitutional relationship. Thus, the aggregate effect is that a strong reputation improves the usefulness of accounting information in debt contracts. Additional tests show that (1) analysts' private information weakens the complementary relationship between reputation and accounting information and that (2) banks require a lower degree of conditional conservatism from firms with a better reputation, which suggests that reputation can substitute for the governance role of accounting information. Moreover, there is weak evidence to suggest that the effect of reputation is diminished as the legal environment improves.

In contrast to the prior literature, which focuses on the relationship between accounting information and formal institutions, this study has investigated the relationship between such information and reputation, an informal institution, within the transaction cost economics framework, and has documented both a substitutional and complementary relationship between them. The study also offers a preliminary attempt at measuring the reputation of family firms and provides direct evidence of the way in which reputation has an effect. In China, which is characterized by weak formal institutions, large numbers of transactions rely on informal institutions. Such a unique setting provides numerous opportunities for research whose results will have important implications for the economic activities of other transition economies. It is suggested that future research employ larger samples, compare family firms and non-family firms directly, and use panel data to avoid such econometrics problems as serial correlation, thereby allowing more accurate and credible conclusions to be reached.

References

Ali, A., Hwang, L. S., 2000. Country-specific factors related to financial reporting and the value relevance of accounting data. Journal of Accounting Research 38:1-21.

Anderson, R., Mansi, S., Reeb, D., 2003. Founding family ownership and the agency cost of debts. Journal of Financial Economics 68: 263-285.

Ball, R., 2001. Infrastructure requirements for an economically efficient system of public financial reporting and disclosure. Brookings-Wharton Papers on Financial Services: 127-169.

Ball, R., Kothari, S. P., Robin, A., 2000. The effect of institutional factors on properties of accounting earnings: International evidence. Journal of Accounting and Economics 29: 1-52.

Ball, R., Shivakumar, L., 2005. Earnings quality in UK private firms: Comparative loss recognition timeliness. Journal of Accounting and Economics 39: 83-128.

Basu, 1997. The conservatism principle and the asymmetric timeliness of earnings. Journal of Accounting and Economics 24: 3-37.

Burgstahler, D., Hail, L., Leuz, C., 2006. The importance of reporting incentives: Earnings management in european private and public firms. Accounting Review 81: 983-1016.

Bushman, R., Piotroski. J., 2006. Financial reporting incentives for conservative accounting: The influence of legal and political institutions. Journal of Accounting and Economics 42: 107-148.

Bushman, R., Piotroski, J., Smith, A., 2004. What determines corporate transparency? Journal of Accounting Research 42: 207-252.

Chaney, P., Faccio, M., Pasley, D., 2008. The quality of accounting information and politically connected firms. Working Paper, Vanderbilt University.

Claessens, S., Djankov, S., Lang, L. H. P., 2000. Separation of ownership from control of East Asian firms. Journal of Financial Economics 58: 81-112.

Coase, R., 1937. The nature of the firm. Economica 4: 386-405.

Dechow, P. M., 1994. Accounting earnings and cash flows as measures of firm performance: The role of accounting accruals. Journal of Accounting and Economics 18: 3-42.

Faccio, M., Lang, L. H. P., 2002. The ultimate ownership of Western European corporations. Journal of Financial Economics 65: 365-395.

Fan, G., Wang, X. L., Zhu, H. P., 2007. NERI index of marketization of china's provinces 2006 report. Beijing: Economics Science Press. (In Chinese)

Fan, J., Wong, T., 2002. Corporate ownership and the informativeness of accounting information. Journal of Accounting and Economics 33: 401-425.

Gul, 2006. Auditors' response to political connections and cronyism in Malaysia. Journal of Accounting Research 44: 931-963.

He, X. J., Zhu, H. J., Chen, X. Y., 2008. On banks' lending behavior and governments' multiple incentives. Journal of Financial Research 6: 1-20. (In Chinese)

Jensen, M. C., Meckling, W. H., 1976. Theory of the firm: Managerial behavior, agency costs, and ownership structure. Journal of Financial Economics 3: 305-360.

Jones, J., 1991. Earnings management during import relief investigations. Journal of Accounting Research 29: 193-228.

Klein, B., Crawford, R., Alchain, A., 1978. Vertical integration, appropriable rents, and the competitive contracting process. Journal of Law and Economics 21: 297-326.

Klein, B., Leffler, K., 1981. The role of market forces in assuring contractual performance. Journal of Political Economy 89: 615-641.

Leuz, C., Nanda, D., Wysocki, P., 2003. Earnings management and investor protection: International investigation. Journal of Financial Economics 69: 505-527.

Lin, J. Y., 1994. An economic theory of institutional change: Induced and imposed changes. In: R. Coase *et al.* (eds.), Property Rights and Institutional Changes (pp. 371-418). Shanghai: Joint Publishing Company. (In Chinese)

Shleifer, A., Vishny, R., 1997. A survey of corporate governance. Journal of Finance 52: 737-783.

Sun, Z., Li, Z. Q., Wang, J. B., 2006. Ownership types, accounting information and debt contracts: Empirical evidence from Chinese listed companies. Management World 10: 100-107. (In Chinese)

Sun, Z., Liu, F. W., Wang, H., 2005. Debt, corporate governance, and accounting conservatism. China Accounting and Finance Review 2: 112-173.

Wang, D., 2006. Founding family ownership and earnings quality. The Accounting Review 44: 619-656.

Wang, M. L., Zhou, S. C., 2006. Controlling family types, two types of and three levels of the principal-agent problem and the firm's value. Management World 8: 83-93. (In Chinese)

Watts, R., 1977. Corporate financial statements, a product of the market and political processes. Australian Journal of Management 4: 54-75.

Watts, R., Zimmerman, J., 1986. Positive accounting theory. Edgewood Cliffs, NJ: Prentice Hall.

Watts, R., Zimmerman, J., 1990. Positive accounting theory: A ten year perspective. Accounting Review 65 (1): 131-156.

Williamson, O., 1979. Transaction-cost economics: The governance of contractual relations. Journal of Law and Economics 22: 233-261.

Williamson, O., 1983. Credible commitments: Using hostages to support exchange. The American Economic Review 73: 519-540.

World Bank, 2006. Doing business in China, 2008. Beijing: Social Sciences Academic Press (China). (In Chinese)

Xia, L. J., 2003. Application of earnings management measuring models in the Chinese stock market. China Accounting and Finance Review 2: 94-154.

Yang, R. L., Nie, H. H., 2006. Incomplete contracting theory: A survey. Economic Research Journal 2: 104-114. (In Chinese)